

**ABSTRACT OF THE DISCLOSURE**

Disclosed herein are various systems and methods for producing mechanical power from a heat source. In various illustrative examples, the system may include a heat recovery heat exchanger, a turbine, an economizer heat exchanger, a condenser heat exchanger, and a liquid circulating pump, etc. In other embodiments, a desuperheater may be employed. In one illustrative embodiment, the system comprises a first heat exchanger adapted to receive a fluid from a heat source and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer with the fluid from the heat source, at least one turbine adapted to receive the vapor, and an economizer heat exchanger adapted to receive exhaust vapor from the turbine and the working fluid, wherein a temperature of the working fluid is adapted to be increased via heat transfer with the exhaust vapor from the turbine prior to the introduction of the working fluid into the first heat exchanger. The system further comprises a condenser heat exchanger that is adapted to receive the exhaust vapor from the turbine after the exhaust vapor has passed through the economizer heat exchanger and a cooling fluid, wherein a temperature of the exhaust vapor is reduced via heat transfer with the cooling fluid, and a pump that is adapted to circulate the working fluid to the economizer heat exchanger.